

## CLAIMS

1. A speech recognition system comprising:

an output device configured to play a speech prompt to a user of the system, the speech prompt conveying information to the user or prompting the user for speech input;

5 a detector configured to receive a sound signal indicative of a possible target sound and to output a signal representative of the sound signal and a signal indicating receipt of the sound signal, so as to permit interruption of further output of the prompt if the detector receives the sound signal while the output device is playing the prompt;

10 a recognizer coupled to the detector, the recognizer being configured to receive the signal representative of the sound signal and to output a recognizer signal indicative of whether the sound signal is a target sound; and

15 a control unit coupled to the output device, the detector, and the recognizer, the control unit being configured to receive the recognizer signal and, if the detector received the sound signal while the output device was playing a prompt and the recognizer signal indicates that the sound signal is other than a target sound, to cause the output device to play at least a portion of the prompt being played by the output device when the sound signal was received by the detector.

2. The system of claim 1 wherein the control unit is configured to cause the output  
20 device to replay the prompt that was being played when the sound was received by the detector from a beginning of the prompt.

3. The system of claim 1 wherein the control unit is configured to cause the output device to replay the prompt that was being played when the sound was received by the detector from a phrase boundary preceding a point at which further output of the prompt was interrupted.

5 4. The system of claim 3 wherein the phrase boundary is a last phrase boundary preceding the point at which further output of the prompt was interrupted.

10 5. The system of claim 1 wherein the control unit is configured to cause the output device to play the prompt that was being played when the sound was received by the detector beginning from a point at which further output of the prompt was interrupted.

15 6. The system of claim 1 wherein the control unit is configured to cause the output device to play the prompt that was being played when the sound was received by the detector using a restart algorithm dependent on a point at which further output of the prompt was interrupted.

20 7. The system of claim 1 wherein the control unit is configured to cause the output device to play the prompt that was being played when the sound was received by the detector using a restart algorithm dependent on the prompt.

25 8. The system of claim 1 further comprising a content analyzer configured to process the signal representative of the sound signal if the sound signal is determined to be a target sound indicative of speech.

9. The system of claim 8 wherein the content analyzer is configured to attempt to recognize the speech to which the target sound is indicative.

10. The system of claim 1 wherein the control unit is configured to cause the output device to interrupt playing the prompt if the detector receives the sound while the output device is playing the prompt.

11. A computer program product, residing on a computer-readable medium, for use in a speech recognition application configured to play prompts to a user of the application and to receive signals indicative of sounds, the speech recognition application being configured to interrupt at an interruption point a prompt being played when a sound is received by the application, the computer program product comprising instructions for causing a computer to:

determine whether a signal indicative of a sound received by the speech recognition application while a prompt is being played is indicative of a target sound; and

cause the speech recognition application to play at least a portion of the prompt being played by the output device when the sound that was received by the speech recognition application is determined to be indicative of a non-target sound.

12. The computer program product of claim 11 wherein the instructions for causing a computer to cause the speech recognition application to play at least a portion of the prompt include instructions for causing the computer to cause the speech recognition application to replay the prompt that was being played when the signal indicative of a sound was received by the application from a beginning of the prompt.

13. The computer program product of claim 11 wherein the instructions for causing a computer to cause the speech recognition application to play at least a portion of the prompt include instructions for causing the computer to cause the speech recognition application to  
5 replay the prompt that was being played when the signal indicative of a sound was received by the application beginning from a phrase boundary preceding the interruption point.

14. The computer program product of claim 13 wherein the phrase boundary is a last phrase boundary preceding the interruption point.

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15. The computer program product of claim 11 wherein the instructions for causing a computer to cause the speech recognition application to play at least a portion of the prompt include instructions for causing the computer to cause the speech recognition application to play  
15 the prompt that was being played when the signal indicative of a sound was received by the application beginning from the interruption point.

16. An interactive speech method comprising:  
playing a prompt to a user;  
detecting a signal indicative of a sound;  
20 in response to detecting the signal indicative of a sound, interrupting the playing of the prompt at an interruption point of the prompt;  
determining whether the detected signal is indicative of a target sound; and

resuming play of at least a portion of the prompt in response to determining that the detected signal is indicative of a non-target sound.

17. The method of claim 16 wherein the step of resuming play includes restarting the prompt from its beginning.

18. The method of claim 16 wherein the step of resuming play includes restarting the prompt from a phrase boundary preceding the interruption point.

19. The method of claim 18 wherein the phrase boundary is a phrase boundary immediately preceding the interruption point.

20. The method of claim 16 wherein the step of resuming play includes restarting the prompt from the interruption point.

21. A speech recognition system comprising:  
an output device configured to play speech prompts to a user of the system, the speech prompts conveying information to the user or prompting the user for speech input;  
a detector configured to receive a signal indicative of a possible target sound and to output a signal representative of the sound; and  
a control unit, coupled to the output device and the detector, programmed to stop the output device from playing the prompt if the detector receives the signal indicative of a possible

22. The system of claim 21 further comprising a recognizer coupled to the detector and the control unit, the recognizer being configured to determine whether the sound received by the detector is a target sound.

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